1.9
P64P

THE PLANT DISEASE REPORTER

LIBRARY
RECEIVED
★ OCT 26 1940 ★
U. S. Department of Agriculture

Issued By

Division of Mycology and Disease Survey

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

Volume XXIV Number 19

October 15, 1940

The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

THE PLANT DISEASE REPORTER

Issued by

THE PLANT DISEASE SURVEY

DIVISION OF MYCOLOGY AND DISEASE SURVEY

Volume XXIV Number 19

October 15, 1940

IN THIS ISSUE

The discovery of flag smut on wheat in Washington is reported by F. D. Heald and C. S. Holton, page 382.

Circumstantial evidence indicates that inoculum for stem rust on fall-sown oats in an Arkansas field came from nearby infected orchard grass, according to H. R. Rosen, page 382.

H. H. Thornberry and H. W. Anderson report a root decay and stunting of tomato plants in Illinois, associated with the onion pink-root fungus, page 383.

Curly top was very destructive to the tomato crop in southern California this year, according to John T. Middleton, page 384.

Alice J. Watson reports bitter sweet as a new host for the apple bitter rot fungus, page 385.

Tomato late blight was more prevalent in Massachusetts than it had been since the 1932-33 outbreak, according to O. C. Boyd, reporting on diseases observed during September, page 386.

Some obscure peach diseases occurring in Washington are described by L. K. Jones, page 383.

Check List revision, by Freeman Weiss, page 389.

Brief notes, page 394, include reports on severe occurrence of sclerotinia rot on beans in New York, by Otto A. Reinking; rust on ash trees in New Hampshire, by Stuart Dunn; and recovery of eelgrass in Pamlico Sound, by the Fish and Wildlife Service of the Department of the Interior.

September weather, page 395.

An unusual amount of cereal rusts has developed in Oklahoma, according to a last-minute report received from K. Starr Chester, page 397.

FLAG SMUT OF WHEAT FOUND IN WASHINGTON

F. D. Heald and C. S. Holton

Specimens of smutted wheat stubble from a field of Hymar were received from County Agent L. W. Ternahan, Goldendale, Washington, on August 13 and diagnosed as typical flag smut, Urocystis tritici. On August 20 similar specimens were received from R. D. Jones, Camp Agronomist, S. C. S. W-8, Goldendale, and correspondence gave the information that both collections had been obtained independently from the same farm. A field inspection of the Goldendale area was made by C. S. Holton on August 31, and flag smut was found to be confined mainly to the one farm, 5 miles east of Goldendale. In addition to Hymar a small field of Rex on the same farm showed the same smut. The percentage of infection in different parts of the fields ranged from 0 to 25 with an estimated average of 5 percent. A trace of flag smut (4 plants) on Hymar was found on a second farm 2 miles south of Goldendale.

(Washington Agricultural Experiment Station, September 18).

STEM RUST ON FALL SOWN OATS AT FAYETTEVILLE, ARKANSAS

H. R. Rosen

On September 30 and October 1, 1940, stem rust (Puccinia graminis avenae) was found on a number of oat plants derived from seeds planted in early September. Likewise, two plants of orchard grass, Dactylis glomerata, heavily infected with stem rust, were found in close proximity to rows of oats which showed stem rust. After several years search for both crown and stem rust on fall-sown oats, this is the first time that any rust has been found on cultivated oats in the early fall at Fayetteville.

After 6 hours of searching in a field consisting of short nursery rows, approximately 25 infected oat plants were found out of 1420 rows examined. The number of plants per row varied from 5 to over 100. It can be seen that the number of plants found infected was so small that if the search had not been prolonged no rust would have been observed.

The field in which these oats were grown had been, for a number of years, in alfalfa mixed with a fairly large number of plants of orchard grass. After the field was plowed, disked, and harrowed this August and early September, quite a few plants of alfalfa and orchard grass remained alive.

The oats in which stem rust was found were planted September 10 and 11. With favorable soil moisture, most of the seeds had germinated within 10 days and in numerous cases had produced almost fully expanded first leaves in that period. The rust pustules found on these oats on September 30 were in most instances large, fully developed, and there were, in a few cases, the beginnings of smaller, secondary sori.

While the evidence is not sufficient to say definitely that the rust on oats was derived from that on orchard grass, nevertheless the circumstantial field evidence looked so assuring that the writer is inclined to accept it as indicating such a connection. On the night of September 22 there was a rainfall of .72 of an inch, and on the 24th a torrential rain of 3.36 inches fell. While a few widely scattered plants showing one or very few pustules were located, it was quite impressive to see that almost every oat plant was infected in the rows contiguous to the infected bunches of orchard grass, and in these rows, the infections on some of the plants were quite numerous. These infections suggested rain-splashed inoculum.

When the first clump of heavily infected orchard grass was observed bordering oats showing numerous infections, the writer considered this purely fortuitous in view of the fact that several large single pustules, on as many different plants, had been found in different parts of the field with no infected orchard grass nearby. These few, well-separated plants showing only one or very few pustules, suggested wind-blown inoculum. But when another clump of orchard grass was found with many large pustules and with the oats nearby showing a relatively large number of infections, it duplicated in such perfection the other infected clump plus heavily infected adjoining oats that the theory of wind-blown inoculum seemed untenable.

There appears to be no question that orchard grass is susceptible to stem rust. It is listed as one of the hosts of Puccinia graminis by Arthur (Manual of the Rusts of the United States and Canada, p. 74) and Stakman and coworkers have clearly shown that this grass is subject to infection by a race of stem rust that attacks oats (Journ. Agr. Res. 24: 1013 1018, 1923). In fact the latter investigators determined this connection from infected orchard grass found in the adjoining state of Oklahoma.

The rust on this grass found this fall at Fayetteville showed typical stem rust pustules, the uredia being mostly large, reddish brown and possessing oblong, golden brown spores with four pores, equatorially arranged. These uredia and urediospores could not be mistaken for those of Uromyces dactylidis, the other rust known to attack orchard grass.

(Arkansas Agricultural Experiment Station)

PINK-ROOT DISEASE OF ONIONS ON TOMATOES

H. H. Thornberry and H. W. Anderson

Tomatoes in the vegetable growing areas of Cook County near Chicago were infected this season with a pink-root disease, apparently caused by Phoma terrestris Han. The small roots were colored pink and largely disintegrated by the infection. Large roots were not invaded except for the small lateral roots which were discolored. The root system of stunted plants invariably showed the lack of small roots. This destruction of the roots primarily concerned in the uptake of water and minerals from the soil,

no doubt, accounted for the poor growth of the plants. Stunted growth was the principal symptom of the disease above ground. The disease was found only on soil that had been planted recently to onions. Since the onion crop is extensively grown in parts of this region, more infestations in tomato plantings in the future may be expected. However, most of the growers in the area grow their sets from seeds and do not purchase onion sets from other parts of the country. This practice apparently has prevented the development of the pink-root disease on the farms following such practices. Apparently the seeds do not carry the disease. It is strongly urged that onion sets purchased from other sections be certified as free from the disease. A case of infected onion sets from the south was found this year near Collinsville, Illinois.

Pertinent unpublished information on the host range of Phoma terrestris was kindly supplied by Dr. E. I. Melhus (Kreutzer, W. A. Host-parasite relationships in the pink-root disease of onions. Thesis (Ames, Iowa) 1939.) The host range (young crop plants - roots of the fungus, according to this thesis, is as follows: barley, cane, cantaloupe, carrot, cauliflower, corn, cucumber, eggplant, millet, muskmelon, oats, pea, pepper, soybean, spinach, squash, tomato, and wheat. This unpublished information is included with approval of Dr. Melhus by letter of September 28, 1940.

(Illinois Agricultural Experiment Station.)

CURLY TOP OF TOMATO IN SOUTHERN CALIFORNIA IN 1940

John T. Middleton

This year was one of the worst years for curly top of tomato (western yellow blight) [virus] in southern California 1/. Usually there is an early infection while the plants are still immature, permitting host expression of the disease early enough in the season to allow growers to remove the diseased vines and replace them with clean stock. This year early infection was noted as usual, but the severe damage incurred was apparently due to the continued infection of maturing plants by infective beet leaf hoppers. In several instances growers who pulled out the young infected plants in an attempt to remove possible inoculum sources and replanted to increase the stand, received no benefit through the treatment.

The disease is usually confined to inland tomato growing areas, but this year it was found along the coast in plantings in San Diegeo, Orange, Los Angeles, Ventura, and Santa Barbara counties. In the inland regions severe damage was incurred. There was about a 25 percent loss of plantings

---

1/[Reports on curly top in other regions this year have been given in the Reporter as follows: Utah, pp.253-254; the lower Rio Grande Valley of Texas, p. 255; northeastern Texas, p. 228 and p. 292].

in the Temecula Valley, Riverside County, upwards to 30 percent in the Newhall area, Los Angeles County, approximately 40 percent in the Yucaipa Valley, San Bernardino County, and about a 50 percent reduction in productive stands in the Vista section, San Diego County.

Apparently none of the commercially grown varieties of tomatoes such as the Stone, San Diego Stone, Earliana, First Early, Second Early, Pearson, Marglobe, Norton, Ponderosa, or San Marzanos exhibited any measurable degree of resistance to the disease in the areas in which these varieties were grown.

Following the first part of August no further infection of tomato plantings was noted, nor likely to take place, so it is reasonably safe to predict that the late plantings in San Diego, Santa Barbara, and Ventura counties are likely to escape infection, particularly as most of these plantings are coastal.

(University of California, Citrus Experiment Station, Riverside.)

CELASTRUS SCANDENS, A NEW HOST FOR GLOMERELLA CINGULATA

Alice J. Watson

A specimen of stems of Celastrus scandens (bitter sweet) showing very definite cankered areas was recently received from Mr. Harry West, Durham, New Hampshire. The lesions practically encircled the stems, and reached a length of about an inch. The diseased areas were darker than the normal tissues, dull gray to brown in color on older stems, reddish-brown with white centers on young green stems. Typical Gloeosporium acervuli were present in abundance in the central portions of the lesions, and in a few of the older cankers perithecia with mature ascospores were found. The fungus in both stages was typical morphologically of Glomerella cingulata (Ston.) Spauld. & v.Schrenk., but because of the unusual host involved cultural studies were made.

Cultures on cornmeal agar produced a rather scanty, cottony, olive-gray mycelial growth on which were developed within 2 weeks abundant pale ochraceous-buff to ochraceous-salmon conidial masses with black stromatic bases. Perithecia also developed either singly or in groups, 120-150 mu in diameter, subglobose, papillate or with beaks of varying length. Asci were 58-80 x 9-11 mu, sometimes curved and narrowed at the tips. The hyaline ascospores were 13-19 x 4.5-6 mu, slightly curved. Filiform, thin-walled paraphyses were noted. Conidia, which were present in abundance, were cylindrical with rounded ends, vacuolate, hyaline singly, but salmon in mass, 13-17 x 4-5 mu. In its cultural characters the fungus was well within the limits of Glomerella cingulata as established by Shear and Wood (Studies of fungous parasites belonging to the genus Glomerella, U. S. Bur. Pl. Ind. Bull. 252. 1913).

As a further test McIntosh and Greening apples were inoculated with conidia from plate cultures. Where the conidial suspension was placed on the unbroken surface of the fruit no rot appeared after 2 weeks. Where the conidia were applied to scalpel wounds in the fruit typical bitter rot lesions promptly appeared, the checks remaining sterile. The rotted areas reached a diameter of 4 cm. in 2 weeks time and on the Greening fruit developed typical acervuli and perithecia. On the McIntosh fruit acervuli were slower in developing but were otherwise typical although perithecia had not appeared at the time the test was discontinued. All evidence secured indicates a strain of Glomerella cingulata which is also capable of causing bitter rot of apples, as the cause of the cankers on stems of Celastrus scandens.

(Division of Mycology and Disease Survey).

PLANT DISEASES IN MASSACHUSETTS IN SEPTEMBER

O. C. Boyd

Tomato: Although early blight [Alternaria solani] and Septoria leaf spot [S. lycopersici] were present as usual during September, they were not so damaging as in some past seasons. Late blight [Phytophtora infestans], on the other hand, has been more prevalent than in any season since the notable outbreak of 1932-33. It was first observed during the first week of September on nonstaked tomatoes in the Connecticut Valley. It had been discernible there on the fruits, according to the grower, for about a week. It was reported from Worcester and Middlesex Counties during mid-September; and it started to develop about the same time or earlier in the eastern part of Plymouth County, for, on September 20, several advanced cases of fruit infection were observed. However, in some unsprayed fields, it was just beginning to show up. By the last week of September, the disease was present and destructive in practically every field and garden in the three Connecticut Valley counties. In each case observed, foliage infection was much less pronounced than fruit infection, and sporulation was very scanty on the leaves although heavy on the fruits.

The unusual occurrence of late blight this year might possibly be attributed to the unusually cool weather during the second half of August. The mean daily temperature for August was 66.9°F, 1.7° lower than normal. However, while the mean minimum temperature for the entire month was 54.2°, the average for the minimum recordings for August 20 to 29 was 44.2°F. Aside from four showers and light rains during the period, there were fogs and heavy dews at night. It is interesting, however, to note the absence of vigorous sporulation on the infected leaves that was characteristic of the epiphytotic of 1932, even when infected tops are incubated at favorable temperatures.

Potatoes: Late blight developed freely on unprotected tops during late August and through September, but tuber infection was not favored until the arrival of rains during the latter part of September after most of the

tops in gardens and unprotected fields had died. There is light to moderate tuber decay at present in sprayed fields of late varieties that were not kept protected to the end of the growing season. Early blight was more conspicuous than usual in some fields, mostly those that showed evidence of drought injury including premature yellowing and dying of the tops.

Phytophthora pink-rot [P. erythroseptica etc.] is again moderate to serious in those fields on a farm in Hampshire County where the disease caused moderate to heavy losses in 1939. The plant infection stage was observed as early as June 27, when the plants were in early bud development. Light infections of ring rot were observed on several farms in 3 counties [Phytomonas sepedonica].

Other vegetables: Celery early blight and late blight [Cercospora apii, Septoria spp.] were common in all vegetable sections during the month of September. Late blight caused the usual severe injury to unprotected or poorly protected fields on some farms. Both the Cercospora and Macrosporium leaf blights [C.apii carotae, Macrosporium carotae] were present on carrots in the Connecticut Valley, but Cercospora caused very little damage. Macrosporium caused moderate to severe defoliation during the latter half of August and early September. Little or no spraying or dusting is practiced for this crop.

Fruit trees: Brown Rot [Sclerotinia fructicola] on both peaches and plums was considerably more damaging generally this summer than in most past seasons. Not many growers make it a practice to dust or spray right up to harvest. Symptoms of the "X" disease [virus] were less pronounced on peach this year than in past seasons. The disease also was later than usual in showing in both peach trees and chokecherries.

Scab [Venturia inaequalis] is the outstanding disease of apples over all the state this fall, although quince rust [Gymnosporangium clavipes] proved to be more damaging to apples than was suspected earlier in the season. Apple rust [G. juniperi-virginianae] while about as common as usual on the foliage, was less damaging to the fruit than in some seasons and less prevalent than fruit infection by quince rust.

Spray injury was unusually noticeable on both peaches and apples this year. Severe arsenical injury occurred on peaches where the zinc-lime corrective was omitted, and even noticeable amounts were observed in some orchards where it was used. Severe girdling of last year's branch growth and wilting of the foliage occurred in some orchards this fall where arsenical injury was experienced both in 1939 and 1940. About the usual amount of arsenical injury developed during August and early September on apple foliage where lime was omitted from the late cover sprays. Russeting of the fruit of several varieties, Delicious, Baldwin and Greening in particular, is now evident where lime-sulfur was used with lead arsenate in the early cover sprays, or where lime was omitted from the early cover sprays of wettable sulfur plus lead arsenate.

(Massachusetts State College, October 3.)

SOME OBSCURE PEACH DISEASES IN WASHINGTON

L. K. Jones

A very confusing situation exists in many peach orchards as shown by yellowing and dropping of leaves followed by poor growth and death of portions of the trees. A careful examination of the orchards and conferences with other investigators have shown that there are two or three major troubles in addition to those commonly associated with winter injury, spray injury, unbalanced nutrition, and shortages or excesses of water supply.

The two more common troubles may be classified as follows, although further investigation may lead to a different grouping of the symtoms:

(1) The leaves are yellowed and curved downward, often having indefinite, reddish to purplish discolored areas that may drop out to give either a ragged or a shot-hole effect. Very little new growth is formed and many twigs and branches are killed. Fruit on affected branches may be small and drop prematurely. One branch or all branches on an affected tree may have a light-green to yellowish appearance from a distance. Many of these symptoms are similar to those caused by the X virus in the eastern part of the United States. Considerable experimental work is necessary, however, before the exact cause of the trouble can be definitely determined.

(2) Reddish-brown, circular spots, some of which drop out, appear largely between the leaf veins and near the edge of the leaves. Extreme leaf drop occurs, with little or no yellowing of the leaves that remain on the tree. The trees may produce considerable wood growth, and the fruit may hang on the branches even after most of the leaves have fallen. This type of trouble is more commonly associated with unbalanced fertility or the presence of some toxic material in the soil, although it could be caused by a virus. Experimental work is necessary before a definite determination of the cause of this trouble can be made.

There are indications that some of the peach troubles discussed above were introduced in nursery stock. However, observations in leading nurseries of Washington have shown that their peach stock, with one possible exception, does not exhibit the symptoms shown in established orchards.

Experiments are being conducted at the State College of Washington and at the Federal Laboratory in Wenatchee in order to obtain a better understanding of the problem.

(Washington Agricultural Experiment Station.)

CHECK LIST REVISION

Freeman Weiss

BIGNONIA

BIGNONIA CAPREOLATA L., CROSSVINE. Growth Regions 25, 28, 29, 30

Asterella bignoniae (Ell. & Ev.) Sacc., on leaves. La.
Cercospora capreolata Ell. & Ev., leaf spot. Ala., Miss.
Dimerosporium tropicale Speg., black mildew. Miss.
Haplosporella capreolata (Schw.) Ell. & Ev.
Heterodera marioni (Cornu) Goodey, root knot
Meliola bidentata Cke., black mildew. S. Car. to Texas
Physalospora obtusa (Schw.) Cke., on branches Ala.

BISCHOFIA

BISCHOFIA JAVANICA Blume, TOOG. Cult. in S. U.S. and West Indies

Cephaleuros virescens Kunze, algal spot. Fla

BIXA

BIXA ORELLANA L., ANNATTO. Cult in S. U. S. and West Indies

Cephaleuros virescens Kunze, algal spot. Fla.
Cercospora bixae Allesch. & Noack, leaf spot. P. R.
Phyllosticta bixina E. Young, leaf spot. P. R.
Uredo bixae Arth., rust. P. R.

BORRERIA

BORRERIA spp. (Rubiaceae) especially B. LAEVIS (Lam.) Griseb., B. MICRANTHA Torr. & Gr. (Spermacoce ocymoides Burm. f.), and B. VERTICILLATA (L.) Meyer.

Asterula tracyi Pk., on leaves. Miss.
Cercospora borreriae Ell. & Ev., leaf spot. Miss.
Meliola psychotriae Earle, black mildew. P. R.
M. amphigena Stev. & Tehon, black mildew. Canal Zone.
Puccinia lateritia Berk. & Curt., rust (III). Fla. P. R., Virgin Is.
Uredo borreriae (P. Henn.) Kern & Whet., rust (II). P. R.

BORRICHIA

BORRICHIA ARBORESCENS (L.) D. C., OXEYE. Tropical America, including S. Florida

Puccinia triannulata (Berk. & Curt.) Jacks., rust (O, I, III). Fla.

BORRICHIA FRUTESCENS (L.) DC., SEA OXEYE: Growth Regions 17, 30.

Accidium borrichiae Syd., rust (O, I). Ala. Fla.
Puccinia triannulata (Berk. & Curt.), rust. Fla., S.Car., Texas

BOSEA

BOSEA AMHERSTIANA Hook. Cult. in S. U. S.

Heterodera marioni (Cornu) Goodey.

BOURRERIA

BOURRERIA spp. (Boraginaceae) especially B. OVATA Miers., STRONGBARK. West Indies and S. Florida.

Phyllachora bourreriae Stev. & Dalby, on leaves. P. R.

BOUSSINGAULTIA

BOUSSINGAULTIA BASELLOIDES H.B. & K., MADEIRA VINE. Tropical America; cult. in S. U.S.

Heterodera marioni (Cornu) Goodey, root knot. Fla.

BOUVARDIA

BOUVARDIA spp. Cult. under glass. B. ternifolia (Cav.) Schl. occurs in sw. U. S.

Aphelenchoides fragariae Ritzema Bos
Heterodera marioni (Cornu) Goodey, root knot. N. Y.
Puccinia bouvardiae Griff., rust (O, I, III). Ariz.
P. lateritia Berk. & Curt., rust (III). P. R.

BRICKELLIA

BRICKELLIA spp., BRICKELLBUSHES. Desert shrubs occurring chiefly in Growth Regions 5, 10, 11.

Aecidium arcularium Arth., rust (O, I). Ariz., Colo., N. Mex.
Cercospora coleosanthi Ell. & Ev., leaf spot. Calif., Colo.
Coleosporium aridum Jacks., rust (II). Calif.
Cuscuta exaltata, dodder. Texas.
Leptosphaeria coleosanthi Fairm., on stems. Colo., N. Mex.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.
Puccinia kuhniae Schw., rust (O, I, II, III). Ariz.
P. subdecora Syd. & Holw., rust (O, I, II, III). Colo., N. Mex., Utah

BROUSSONETIA

BROUSSONETIA PAPYRIFERA (L.) Vent., PAPER MULBERRY. Growth Regions 17, 20, 25, 27, 28, 29.

Cercosporella mori Pk., N. C.
Heterodera marioni (Cornu) Goodey, root knot.
Nectria cinnabarina (Tode) Fr., die-back & canker. Ala., N. Y.
Phoradendron flavescens Nutt., mistletoe. Texas.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas
Physalospora obtusa (Schw.) Cke. Ala., D.C.

BRUNNELLIA

BRUNNELLIA COMOCLADIFOLIA Humb. & Bonpl.

Asterina kernii Toro, on leaves. P.R.

BRUNNICHIA

BRUNNICHIA CIRRHOSA Banks, BUCKWHEAT-VINE. Growth Regions 25, 28, 29, 30.

Leptothyrium brunnichiae Tehon, Ill.
Physalospora ? fusca N.E.Stevens, on stems. La.

BUCHENAVIA

BUCHENAVIA CAPITATA (Vahl.) Eichl., granadillo. Tropical America

Uredo buchenaviae Kern & Whet., rust (II). P.R.

BUCKLEYA

BUCKLEYA DISTICHOPHYLLA (Nutt.) Torr., BUCKLEYA. Dist. N.C. and Tenn., occasionally cult.

Cronartium comandrae Pk., rust (II, III). Tenn.
(0 & I on Pinus spp.).

BUDDLEIA

BUDDLEIA spp., BUTTERFLY BUSHES. Several spp., especially B. DAVIDI Franch., summer lilac, are cult. in regions not requiring a high degree of winter hardiness; other spp. native in Growth Regions 11, 17, 20.

Heterodera marioni (Cornu) Goodey, root knot. Miss.
Phoma sp. [Phomopsis buddleiae Grove], stem canker. Ariz.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.

BUETTNERIA

BUETTNERIA

Puccinia filopes Arth. & Holw., rust (III). Canal Zone
Trabutiella buettneriae F.L.Stevens, Canal Zone

BUGINVILLAEA (Spelling according to Bailey; often written Bougainvillea)

BUGINVILLAEA GLABRA Choisy, PAPERFLOWER and B. SPECTABILIS Willd., Cult. in S, U.S.

Cladosporium arthrinioides Thüm. & Belt., on leaves. Texas
Mosaic, undet. virus. Fla.

BUMELIA

BUMELIA LANUGINOSA (Michx.) Pers., GUM BUMELIA. Growth Regions 11, 14, 17, 19, 20, 22, 25, 29, 30, 31, 32.

Cercospora lanuginosa Heald & Wolf, leaf spot. Texas
Helicobasidium purpureum (Tul.) Pat. (Rhizoctonia crocorum (Pers.) DC.) root rot. Texas

Phoma bumeliae House, on stems. Ala., Miss.
Phyllosticta bumeliifolia Heald & Wolf, leaf spot. Ala., Texas
P. curtisii (Sacc.) Ell. & Ev. Fla., Mo.

B. LYCIOIDES (L.) Pers., BUCKTHORN BUMELIA. Growth regions 17, 25, 27, 28, 29, 30.

Phyllosticta bumeliifolia Heald & Wolf, leaf spot. Ala., Miss.
Polystigma bumeliae Schw., on leaves. Ark.
Septoria bumeliae Sacc., leaf spot. Miss.

BUNCHOSIA

BUNCHOSIA CORNIFOLIA H.B. & K.

Meliola crenata Wint., sooty mold. Canal Zone.

BURSERA

BURSERA SIMARUBA (L.) Sarg., GUMBO-LIMBO. Growth Region 32 and West Indies.

Physalospora fusca N. E. Stevens, on branches. Fla.

BUXUS

BUXUS SEMPERVIRENS L., BOX. Cult. in Growth Regions 27, 28, 29, 30. The botanical varieties arbonescens and suffruticosa are sometimes treated as spp. but no distinction

BUXUS SEMPERVIRENS L., BOX (Continued)

is made in the following list of diseases. B. microphylla Sieb. & Zucc. with its varieties japonica, Japanese box, and koreana, Korean box, also is cult. in the U.S., especially in the South.

Armillaria mellea Vahl ex Fr. mushroom root rot. N.J.
Colletotrichum sp., leaf cast. D.C.
Fomes igniarius (L. ex Fr.) Kickx heart rot. Va.
Fusarium lateritium Wees (conidial stage of Gibberella baccata (Wallr.) Sacc., on twigs. D.C., Md., S.C., Va.
F. redolens Wr. and F. solani (Mart.) App. & Wr., on moribund roots D.C.
F. semitectum Berk. & Rav. var. majus Wr., leaf cast and twig blight. D.C.
Ganoderma lucidum (Leyss. ex Fr.) Karst., heart rot. Va.
(Laestadia buxi (Fckl.) Sacc. on leaves. Mass., Miss.
Macrophoma candollei (Berk. & Br.) Berl. & Vogl., on leaves. (Placed variously in Diplodia, Phoma, and Sphaeropsis; Ludwigiella candollei (B.&V.) Petr.) General, following environmental injury as freezing and sunscald.
Nectria cinnabarina (Tode) Fr., on twigs. Ala.
N. desmazierii Becc. & De Not. (Fusarium buxicola Sacc.) canker, twig blight. D.C.
Nectriella rousseliana (Mont.) Sacc., canker, leaf cast, twig blight. General. Verticillium buxi and Volutella buxi are conidial stages occurring on bark, wood and leaves, usually following winter injury; the perfect stage develops chiefly on dead leaves.
Phoma conidiogena Schnegg, leaf tip blight D.C., N.J., N.Y.
Phomopsis stictica (Berk. & Br.) Trav., on twigs. D.C., Md., N.Y., Pa., R.I., Va.. The conidial stage of Diaporthe retecta Nit. = D. eres Nit.
Phyllosticta auerswaldii Allesch., leaf spot. D.C., Mass., N.J., N.Y., Va. American records are under this name, which is a growth stage of P. limbalis Pers. P. buxina Sacc. also on Buxus is distinct.
Physalospora fusca N.E.Stevens, on branches. Pa.
Phytophthora parasitica Dastur, on roots. D.C.
Variegation. Atrophic, paraveinal, systemic chlorosis; ? virus. D.C., Md., Va.
(Verticillium buxi (LK.) Auer. & Fleisch.) A growth form of Volutella buxi and a conidial stage of Nectriella rousseliana.
Verticillium sp., "blue rot", twig blight. Possibly a form of the preceding.
(Volutella buxi (Cda.) Berk.) Nectriella rousseliana.

BYRSONIMA

BYRSONIMA spp. including B. CRASSIFOLIA (L.) H.B. K., B. LUCIDA (Swartz) DC. and B. INTERMEDIA Juss. Trees of Tropical America including S. Florida.

BYRSONIMA spp. (Continued)

Cronartium notatum (Arth.) Arth. & Johnst., rust (II, III). P.R.
Meliola byrsonimae F.L.Stevens, black mildew. Canal Zone, P.R.

(Division of Mycology and Disease Survey).

BRIEF NOTES ON PLANT DISEASES

SCLEROTINIA ROT OF BEANS IN NEW YORK: During the past bean season the sclerotinia rot [S. sclerotiorum] has been observed to be severe in 2 different localities. In areas of worst infestation the vines were killed outright. A luxuriant white cottony mass of mycelium first developed over the lower parts of the plants. Some plants had a soft rot. In later stages white, cottony sclerotia developed, which soon matured into large bluish-to-black hard sclerotia. Stems and pods may be covered with the sclerotia.

In one bean planting observed on September 9, 1940 at Springville, New York, U.S.No.5 and Idaho Refugee beans were severely attacked. In a red kidney bean planting reported on October 5 at Walworth, the plants were being killed outright in an area of approximately 1/8 of an acre. This field had been planted to beans the season before and the disease was noted in the same spot that year. Apparently, all bean varieties as well as many other vegetables may be attacked. During the past 5 growing seasons no widespread damage has been noted. In that period the fungus was observed on cabbage. (Otto A. Reinking, New York State Agricultural Experiment Station, Geneva.)

RUST CAUSING INJURY TO ASH TREES IN NEW HAMPSHIRE: During the past two seasons, ash rust caused by Puccinia peridermiospora has been prevalent on ash trees in southeastern New Hampshire, particularly in the region around Portsmouth. It has caused marked injury and sometimes nearly complete defoliation in some instances. The stage on the alternate host has been observed on Spartina patens, a species of marsh grass. (Stuart Dunn, University of New Hampshire.)

RECOVERY OF EELGRASS ON THE NORTH CAROLINA COAST: Eelgrass [Zostera marina], the waterfowl food plant that about 9 years ago was suddenly almost wiped out along the Atlantic Coast, apparently is making a favorable comeback in Pamlico Sound, according to a recent report from the manager of the Pea Island National Wildlife Refuge. The Fish and Wildlife Service official found excellent growths of eelgrass on the shoals of Oregon Inlet and New Inlet. Encouraging reports have also been received from other areas.

Eelgrass is a valuable waterfowl food, particularly favored by brant. Its recovery from one of the greatest blights in botanic history

has been slow, but the gradual spread of the plant gives promise that it may eventually assume normal abundance. Fishery and shellfish industries as well as waterfowl will be greatly benefited by the recovery. (From a Press Release of the Department of the Interior, Fish and Wildlife Service. September 20.)

SEPTEMBER WEATHER

(From U.S. Department of Commerce Weather Bureau, Weekly Weather and Crop Bulletin for week ending October 8.)

Figure 1 shows that September 1940, was warmer than normal from the western Lake region, western Ohio Valley, and the southern Great Plains westward, and mostly cooler than normal in the South and the Eastern States. The greatest abnormalities occurred between the Lake region and the Pacific Ocean where the monthly mean temperatures were mostly from 4° to 8° above normal; a large southwestern area had only slightly above-normal warmth. In the South the minus departures were mostly 1° to 2°, and were 2° to 4° in most localities from the middle Ohio Valley eastward. The more northeastern States had about-normal warmth.

The outstanding feature of September weather was the large variations in precipitation, geographically and in amount. See Figure 2. From Montana and the Rocky Mountain States westward, except California, it was one of the wettest Septembers of record. In Oregon only one preceding September, 1927, had more rainfall, while it was the third wettest in Nevada. Utah and Idaho had the greatest amount of precipitation for any September of record, while Arizona and Colorado both had the second wettest of record.

On the other hand, a large interior section of the country was extremely dry. In Iowa, the month, with only 25 percent of normal rainfall, was the second driest of record and in Missouri, with 17 percent, the second driest, while Illinois, with 18 percent, had the least rainfall of record for September. There were also some great contrasts in the East. While West Virginia had exactly normal rainfall, Virginia, adjoining, had only 18 percent of normal, the driest September of record. The Southeastern States, except Florida, continued very dry, while Texas had less than half of normal rainfall. Georgia had less rain than in any previous September.

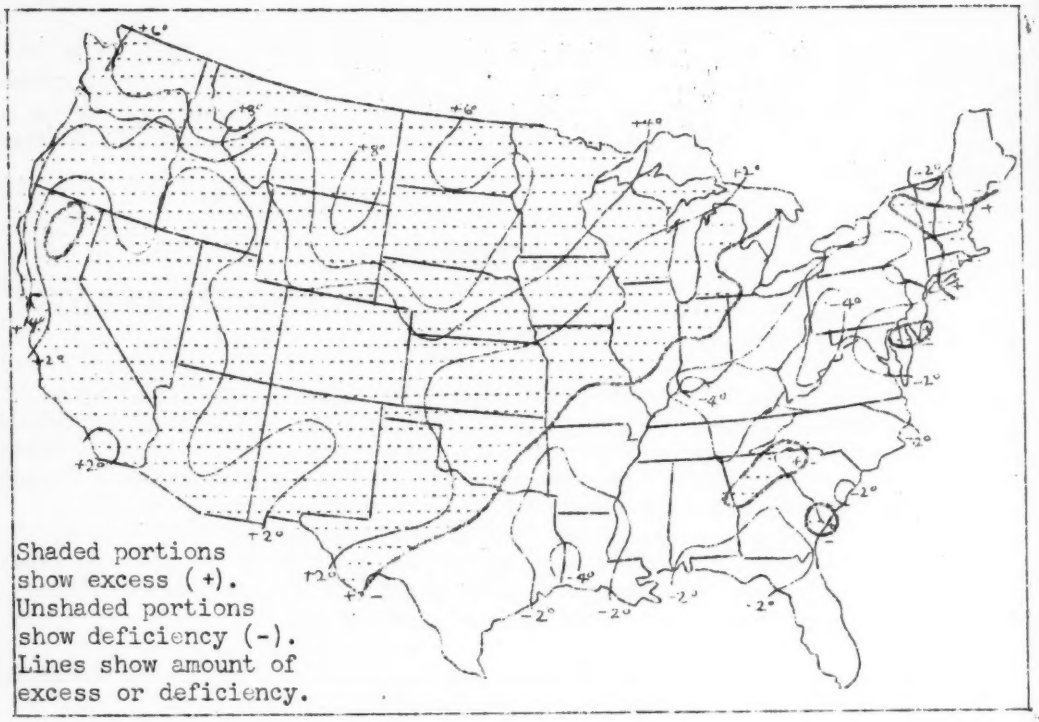

Fig. 1. Departure of Mean Temperature from Normal for September 1940.

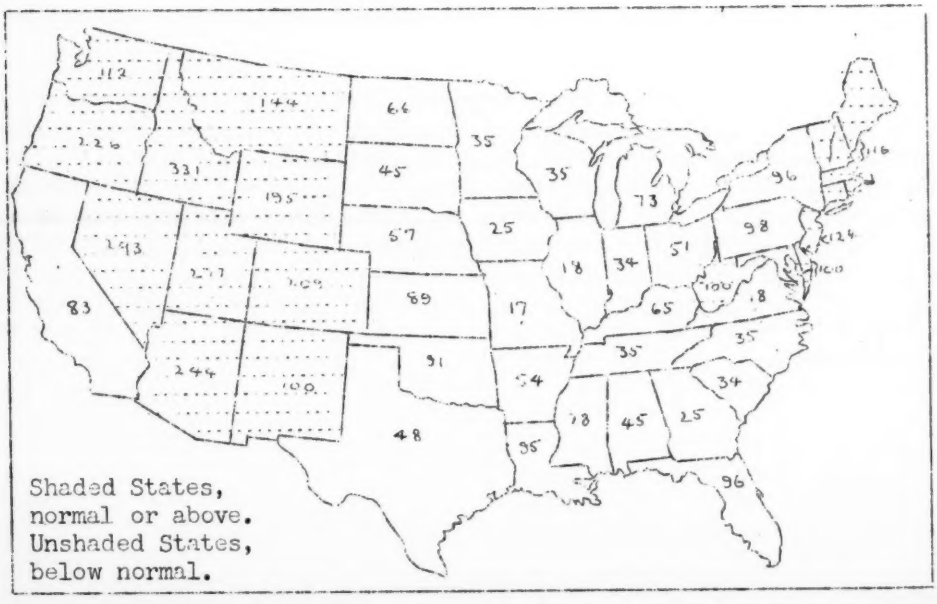

Fig. 2. Percentage of Normal Precipitation, by States, September 1940.

UNUSUAL DEVELOPMENT OF RUSTS ON SMALL GRAINS IN OKLAHOMA

K. Starr Chester

The small grains in the vicinity of Stillwater are showing unusual development of rust for this time of year. Stem rust [Puccinia graminis] has been found in abundance on winter Fulghum oats where it has evidently been present for two weeks or more. Crown rust [P. coronata] has also reached an advanced stage on oats, and leaf rust [P. rubigo-vera tritici] of wheat is present, although in small amount without indication of secondary spread, as yet. The oat rusts have been observed both on volunteer plants and on winter oat plantings of September 15.

The occurrence of stem rust in Oklahoma at this time of year is of particular interest in view of the fact that the month of September was abnormally dry, and the only important rainfall in October was on October 14.

(Oklahoma Agricultural and Mechanical College, October 15.)